ADDENDUM A
HISTORY AND BACKGROUND OF ACSEP

A1. Background

The Aircraft Certification Systems Evaluation Program (ACSEP) was developed as a result of numerous years of experience with Quality Assurance Systems Analysis Review (QASAR) audits and observations made during an interim audit program called "Operation SNAPSHOT." Maintaining consistency with new FAA policies and regulations, with regard to the certificate management process, was also a consideration for the establishment of ACSEP. The intent was to establish a surveillance system that would meet the needs and requirements of the FAA and industry, while incorporating standardized evaluation practices and techniques consistent with the aircraft manufacturing environment and internationally recognized guidelines. The evaluation criteria were, in part, developed in conjunction with the Aerospace Industries Association and General Aviation Manufacturer's Association. By design, ACSEP will support continued operational safety in an ever-changing aircraft manufacturing environment (e.g., new technologies, automation, and co-production) through recurring evaluations of facilities' quality management systems and tracking and trending areas for improvement.

A2. Overview

ACSEP is an Aircraft Certification Service program. The Production and Airworthiness Division, AIR-200, is the national focal point for the reporting of ACSEP evaluation results. Order 8100.7 provides guidance and assigns responsibility for the implementation of the ACSEP and is a vital tool in assurance of the FAA's mission of continued operational safety. The program assesses the compliance of production approval holders to the requirements of applicable CFR and FAA-approved data, including compliance to the procedures established to meet those requirements. It also surveys the application of standardized evaluation criteria not required by the CFR to identify national issues that may require development of new or revised regulations, policy, and guidance.

Evaluation criteria for the production approval holders are further divided into 6 system elements for detailed data collection and reporting. The 6 system elements are:

1. Organizational Management
2. Design Control
3. Software Quality Assurance
4. Manufacturing Processes
   a. Manufacturing and Special Manufacturing Processes
   b. Material Receiving, Handling, and Storage
   c. Airworthiness Determination
5. Manufacturing Controls
   a. Statistical Quality Control
   b. Tool and Gauge
   c. Testing
   d. Nondestructive Inspection
   e. Nonconforming Materials
6. Supplier Control

These system elements contain criteria that assess compliance to the various requirements of the CFR, FAA-approved data, and implementation of accepted industry practices. In total there are 132 evaluation criteria in ACSEP. However, the number of evaluation criteria contained in these system elements varies and is not equally proportioned to each facility type. The amount of variation is due to the CFR requirements and industry practices for the different facility types. The 6 system elements vary in proportion from a high side of 19 evaluation criteria or 13 percent of the total for Supplier Control to a low side of six evaluation criteria or 5 percent for Nonconforming Materials, Tool and Gauge, and Statistical Quality Control. (reference *figure A-1*).

Figure A-1. —Evaluation criteria distribution within the 6 system elements of ACSEP for production approval holders.
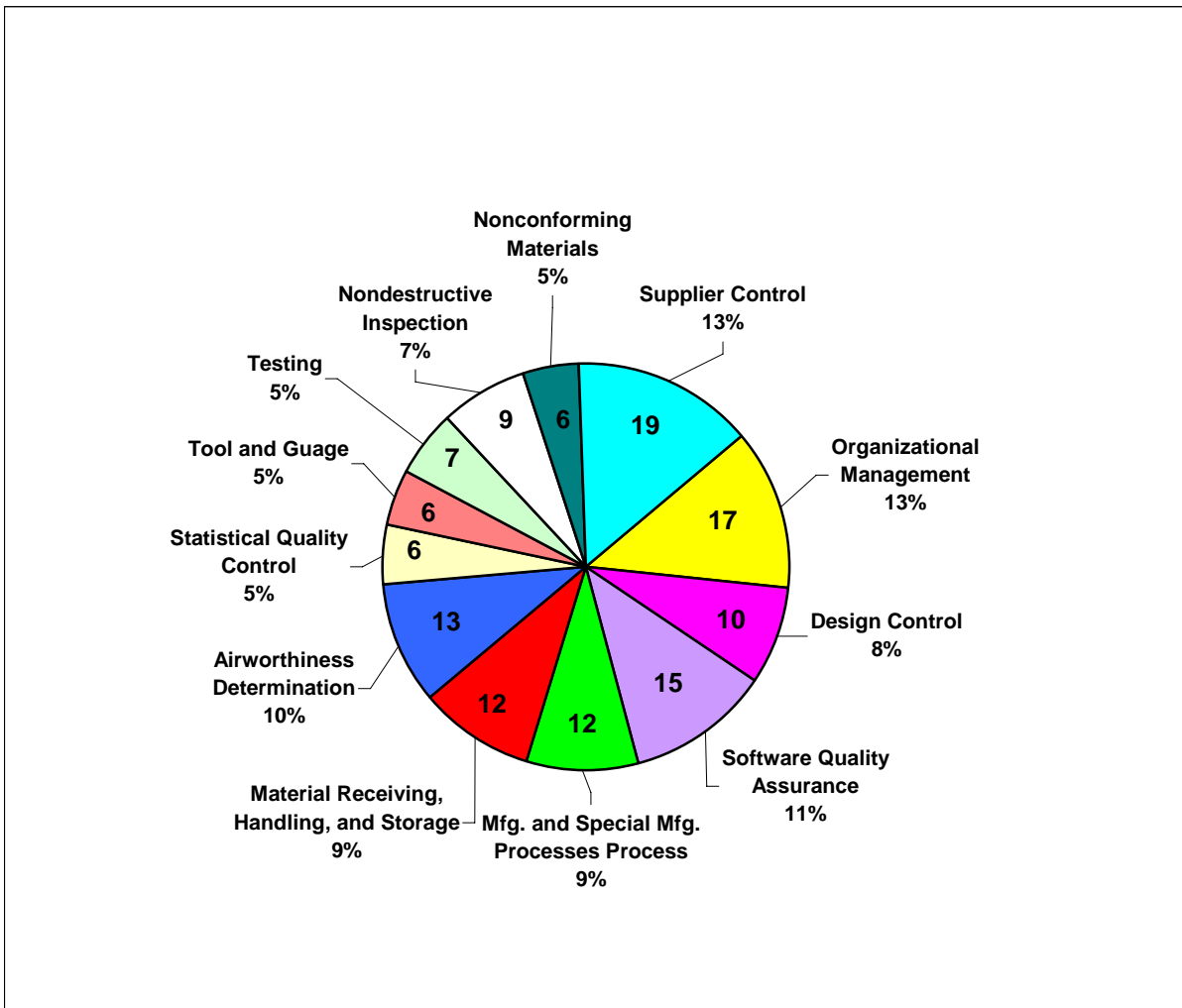
A3. Evaluations and Evaluators

The ACSEP utilizes teams of FAA engineering, flight test, and manufacturing inspection personnel to evaluate production approval holders. Upon completion of each ACSEP evaluation, the team leader prepares a report in the Certificate Management Information System (CMIS) and provides notification to the review point. Subsequent to the reviewer's concurrence, the team leader finalizes the report in CMIS and provides notification to the Manufacturing Inspection Office (MIO) manager, Aircraft Certification Office (ACO) manager, responsible principal inspector, and AIR-200.

The frequency at which production approval holders are scheduled for evaluation is determined by Resource Targeting (RT). The design of RT began in 1994 with the following objective: use a systematic, analytic approach to focus the FAA's limited resources on evaluating those facilities with the greatest potential safety impact. The main way this objective was to be met was to adjust the frequency at which facilities would be evaluated. Resource Targeting uses a process of assessing risks and scheduling those facilities with the greatest perceived risk more frequently than facilities with less perceived risk. Annually, each approval holder is assessed using 21 safety indicators and the criticality of the parts they manufacture. The 21 safety indicators and part criticality are split into two aggregate factors: system strength and inherent risk. System strength is a measure of how capable the quality system is of ensuring that parts will be manufactured according to FAA-approved data. Inherent risk measures the risk that a part failure would have on continued operational safety. The collective score of the two aggregate-factors determines which of the four RT groups is assigned to the facility. Its RT group determines the frequency at which a facility is evaluated:

RT group I:	Evaluated every 18 to 36 months
RT group II:	Evaluated every 24 to 48 months
RT group III:	Evaluated every 32 to 60 months
RT group IV:	ACSEP evaluation not required

At the conclusion of an ACSEP evaluation, a post-evaluation conference is held with the evaluated facility management and any issues or noncompliances are reviewed. The aviation safety inspector (ASI) and/or assigned engineer (AE) responsible for facility certificate management pursue any findings that require formal corrective action. The ASI and/or AE inform the facility of the noncompliances and request corrective action through a Letter of Investigation, when deemed appropriate.

The ACSEP also includes a quality improvement program. Data from the evaluation feedback reports and evaluation reports are used to prompt improvements in the program. The Certificate Management Improvement Team (CMIT), comprised of members from

each directorate and AIR-200, reviews suggestions, comments, and results of the evaluations. After a comprehensive review of the data, the CMIT recommends changes or clarification to current policy.

The AIR organization is responsible for conducting evaluator training. This is accomplished in association with the FAA Academy, with AIR-200 providing instructors. These instructors are experienced national evaluation team leaders who bring real life experiences into the classroom. While one instructor presents the course materials, the other critiques the presentation/materials and notes comments from students. The critique and notes are reviewed and improvements incorporated, facilitating a continuous improvement process. Additionally, issues found in the field are also integrated into the course, making it even more comprehensive and continuously improving it.